Integration of Habitat Actions to Address Process, Function & Structure in Lower Cedar River (Includes Lake Washington Recommendations)

Process: Small creek mouths with sandy deltas and wetlands provide habitat for juvenile rearing and refugia from predators.

Functions Provided: Habitat
Shelter from Predation

Land Use: Provide regulatory flexibility that encourages restoration of these areas. Address impacts from upland development through stormwater management and incentive programs.

Site-Specific: Restore mouths of small creeks to more natural conditions.

Public Outreach: Encourage participation of citizen-based stewardship efforts for creek mouth restoration and water quality protection.

Process: Forests, wetlands, and riparian buffers prevent high flows and erosion, maintain adequate stream flows, protect water quality and temperature, and provide sources of large woody debris that support salmon habitat.

Functions Provided: Water Quantity
Water Quality
Habitat-forming Process

Land Use: Encourage urban designs that incorporate existing trees and native landscaping, low impact development, and other techniques that protect water quality and minimize impacts of stormwater runoff.

Site-Specific: Acquire good quality riparian and forest habitat and revegetate degraded riparian areas and forests.

Public Outreach: Encourage community groups which build public support for protection and acquisition. Enlist help of builders to encourage green development practices.

Process: Gently sloped shorelines with shallow water habitats and overhanging vegetation provide juvenile salmon with rearing habitat and safe haven from predators.

Functions Provided: Habitat
Shelter from Predation

Land Use: Offer expedited permitting to encourage salmon-friendly shoreline design and redevelopment.

Site-Specific: Reduce bank hardening by replacing bulkheads and riprap with gently sloping, sandy beaches.

Public Outreach: Promote salmon-friendly shoreline design and yard maintenance, such as construction of sandy beaches and community docks.

Process: Floodplains provide off-channel habitat for juvenile salmon to rear and find refuge from fast-moving waters and predators. Floodplains reduce water temperatures, maintain adequate stream flows, and provide sources of large woody debris that slow fast-moving water, create channel stability, and create pool habitat.

Functions Provided: Water Quantity
Water Quality
Habitat-forming Process

Land Use: Limit new bank armoring and floodplain development. Local and state transportation departments should limit new road crossings and address water quality impacts of road runoff.

Site-Specific: Purchase floodplains and flood-prone structures, remove levees, and revetments and add large woody debris.

Public Outreach: Construct a demonstration project with riverfront property owners to replace stream-bank armoring with salmon-friendly design. Document and publicize results.

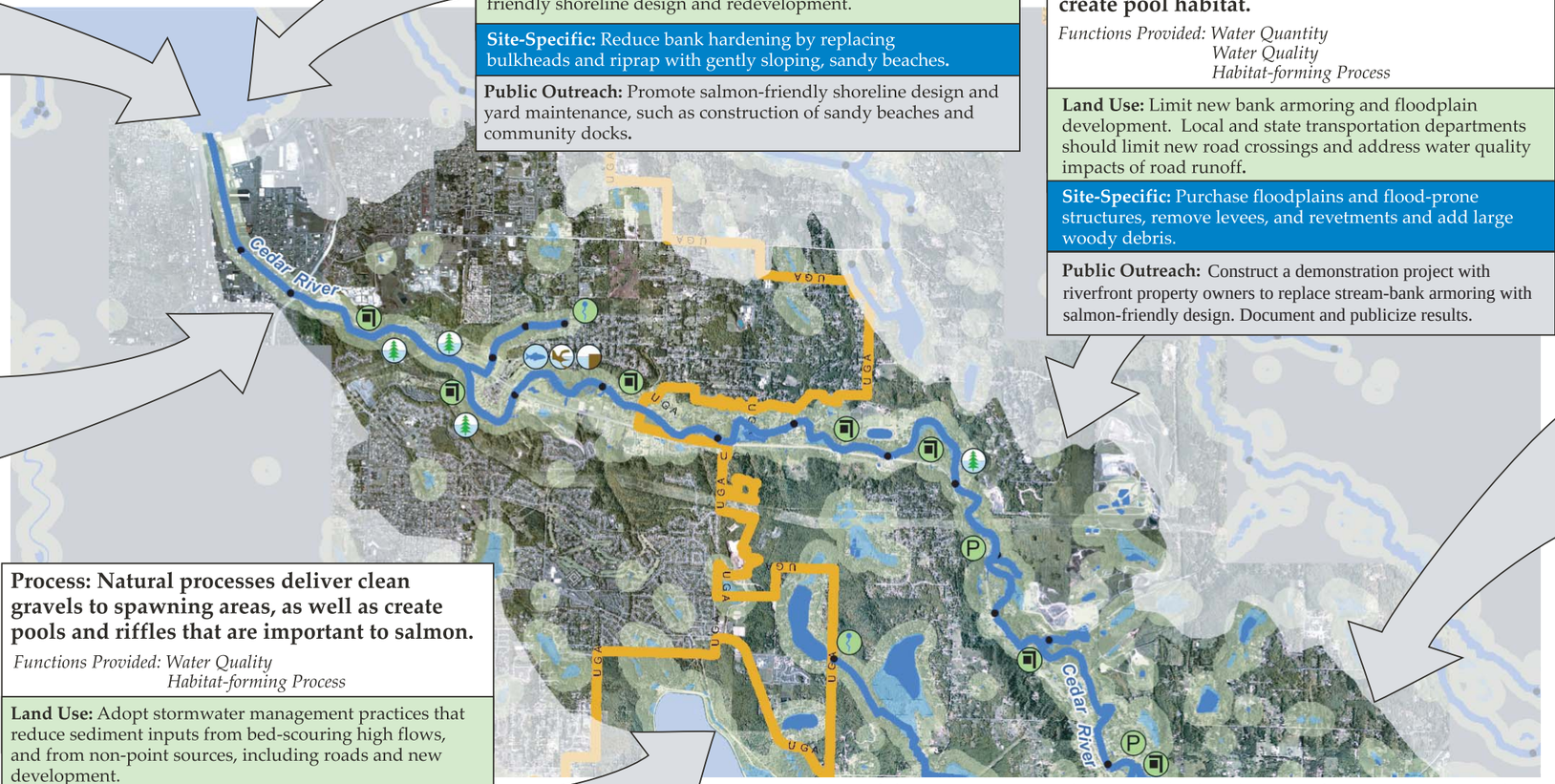
Process: Adequate stream flows allow upstream migration and spawning.

Functions Provided: Water Quantity
Water Quality
Habitat-forming Process

Land Use: Carry out programs that protect aquifer recharge areas, enact stormwater regulations that encourage infiltration and low impact development, and address illegal withdrawals.

Site-Specific: Work with Seattle Public Utilities, Cedar River Instream Flow Commission, and other stakeholders on policies, procedures, and research related to effects of flow on habitat restoration.

Public Outreach: Promote and extend availability of water conservation education and incentive programs.



Process: Natural processes deliver clean gravels to spawning areas, as well as create pools and riffles that are important to salmon.

Functions Provided: Water Quality
Habitat-forming Process

Land Use: Adopt stormwater management practices that reduce sediment inputs from bed-scouring high flows, and from non-point sources, including roads and new development.

Site-Specific: Construct LWD jams at strategic locations to reduce erosion. Plant native riparian vegetation to restore riparian corridor and increase bank stability.

Public Outreach: Promote better understanding of how everyday actions like driving cars (with metal parts that wear away); washing cars on the street; and landscaping practices can all affect water quality.

This graphic illustrates a representative sample of actions. It does not include all proposed actions.

Key to Action Types

Green denotes land use actions across the watershed or in the immediate vicinity of water or key habitats (e.g., wetlands) where regulations/incentives coupled with public education can protect or restore water quality or quantity, and habitat conditions. In the short- and long-term, land use actions in these areas have a major effect on aquatic habitat conditions and the processes that create and maintain that habitat.

Blue denotes areas along water bodies where site-specific actions are proposed to protect or restore specific stream reaches. Such actions may protect or restore habitat functions, or address symptoms of degraded habitat functions. These actions are supported by land use and public education actions that protect habitat processes and functions throughout the watershed.

Gray denotes areas where broader public outreach actions are proposed throughout the watershed. Responsible land stewardship and low impact development protect and maintain natural flow regimes and water quality.

Vicinity Map

Examples of Site-Specific Project Recommendations

Restoration by Reach
- Add LWD as Opportunities Arise
- Add Setback Levee
- Restore and Replant Riparian Vegetation

Protection by Reach
- Protect Riparian Habitat through Acquisition
- Protect Headwaters and Springs
- Protect Large/Public Parcel of Land
- Protect In-Stream Habitat

- Study Reaches (EDT)
- Water Body
- Urban Growth Boundary
- Wetland
- Merged Buffer

N

0 0.25 0.5 0.75 1 Scale in Miles

0 0.5 1 1.5 2 Scale in Kilometers

King County
Department of Natural Resources and Parks
Water and Land Resources Division

0502habactionsCED_N.ai (CS) wgab